Because learning changes everything.®

Virtual Labs

A Realistic Simulated Lab Experience

Introducing the new Connect® Virtual Labs! Your students will be better prepared for lab, more efficient, and retain more of the fundamental skills necessary for a successful laboratory experience.

Connect Virtual Labs is a fully online lab solution that can be used as an online lab replacement, preparation, supplement or make-up lab to bridge the gap between lab and lecture. These simulations help a student learn the practical and conceptual skills needed, then check for understanding and provide feedback. With adaptive pre-lab and post-lab assessment available, instructors can customize each assignment.

Available 24/7– even if the lab space isn't!

Built with accessibility in mind.

Easy-to-follow on-screen instructions.

Student progress is automatically saved.

Visible progress bar.

For more information, click here to contact your Account Manager

List of Connect® Virtual Labs

1st Lab Tutorial:
- Virtual Labs Tutorial

Applying the Scientific Method:
- Pillbug Preference

Aseptic Technique:
- Ubiquity of Microorganisms: Sampling Surfaces for Bacteria
- Transfer from Broth to Broth
- Transfer from Broth to Slant
- Transfer from Broth to Agar Plate

Bacterial Genetics:
- DNA Profiling
- PCR
- Bacterial Transformation

Blood:
- Differential White Blood Cell Count
- Hematocrit
- Hemoglobin Content
- Blood Typing

Cardiovascular Physiology:
- Pulse Rate
- Blood Pressure
- Electrocardiography
- Heart Auscultation

Cell Division
- Examining Meiosis
- Examining Mitosis

Cell Structure
- Examining Plant & Animal Cells

Cellular Respiration:
- Yeast Fermentation
- Measuring Energy Production in Plants

Chemical Composition of Cells:
- Test for Starch
- Test for Sugars
- Digestion of Starch
- Emulsification of Lipids
- Test for Fat
- Test for Proteins

Control of Microbial Growth:
- Effect of Ultraviolet Light
- Antiseptics/Disinfectants
- Antimicrobial Sensitivity Testing: Kirby-Bauer

Diffusion:
- Effect of Concentration on the Rate of Diffusion in a Semisolid
- Effect of Density of Media on the Rate of Diffusion
- Effect of Molecular Weight on the Rate of Diffusion in Air
- Diffusion Across a Selectively Permeable Membrane

Digestive System:
- Enzymes & Digestion

DNA Biology and Technology:
- Isolation of DNA
- Gel Electrophoresis
- *DNA/RNA Structure

Electromyography:
- Motor Unit Recruitment
- Time to Fatigue

Endocrine System:
- Influence of Thyroid Hormone on Temperature Regulation
- Effects of Blood Glucose Level

Evidence of Evolution:
- Molecular Evidence
- *Evidence of Comparative Anatomy

Eye and Vision:
- Eye Dissection
- Accommodation of the Lens
- Astigmatism Test
- Blind Spot Demonstration
- Color Vision Test
- Convergence Reflex Test
- Pupillary Reflex Test
- Visual Acuity Test

How Enzymes Function:
- Effect of Temperature
- Enzyme Activity
- Effect of pH
- Effect of Concentration

Human Genetics:
- Chromosomal Inheritance During Meiosis
- Genetic Inheritance

Isolation Methods:
- Quadrant Streak Plate Method
- Pour-Plating Method
- Subculturing of Bacteria
- Quantitative Dilution of Bacteria
- Quantification by Colony Counting
- Optical Density

Lab Safety:
- Hand Washing Procedure
- Personal Safety

Mendelian Genetics:
- Monohybrid Plant Cross
- Fruit Fly Characteristics
- Monohybrid Fruit Fly Cross
- Dihybrid Plant Cross
- Dihybrid Fruit Fly Cross
- X-Linked Fruit Fly Cross

Metric Measurement:
- Length
- Weight
- Volume
- Temperature

Microbial Growth:
- Oxygen Requirements & Anaerobic Jar
- Effects of Osmotic Pressure
- Effects of Temperature
- Oxygen Requirements & FTM Tubes
- Effects of pH

Microscopy:
- Operation of a Brightfield Microscope
- Oil Immersion
- Pond Water Wet Mount
- *Plant Cells
- *Animal Cells
- *Diversity of Microorganisms
- *Epithelial Tissue Histology
- *Connective Tissue Histology
- *Muscle Tissue Histology
- *Nervous Tissue Histology
- *Euglena Wet Mount

Natural Selection:
- Antibiotic-Resistant Bacteria
- Natural Selection in Insects

Nervous System:
- Demonstrate Monosynaptic Reflexes

Osmosis:
- Movement of Water Across a Selectively Permeable Membrane
- Tonicity in Red Blood Cells
- Tonicity in Elodea Cells
- Tonicity in Potato Strips

pH Balance:
- Function of Buffers
- Antacids as Buffers

Photosynthesis:
- Photosynthetic Pigments
- Comparing Green and Blue Light
- Determining Rate in White Light
- Monitoring Photosynthesis with Carbon Dioxide Uptake

Respiratory System:
- Mechanism of Breathing
- Pulmonary Function Tests

Sampling Ecosystems:
- Biological Sampling
- Comparing Ecosystems

Skeletal Muscle:
- Shoulder & Elbow Movement Exercise
- Electrical Stimulation

Staining:
- Smear Preparation
- Gram Staining
- Acid-Fast Staining
- Capsule Staining
- Spore Staining

Unknown Bacterial Identification:
- Samples 1-10

Urinary System:
- Urinalysis

Coming: *Feb. 2021